AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A bi-directional printing method using a printing apparatus, the printing apparatus being capable of mounting thereon a first ink set and a second ink set that have mutually different combinations of inks and being capable of using a first bi-directional print mode that selectively uses inks included in the first ink set and a second bi-directional print mode that selectively used inks included in the second ink set so that a combination of inks used in the first bi-directional print mode is different from a combination of inks used in the second bi-directional print mode, the printing method comprising the steps of:

(a) providing a plurality of position adjustment values including a first position adjustment value for the first bi-directional print mode and a second position adjustment value for the second bi-directional print mode as position adjustment values for reducing misalignments of dot forming positions on forward passes and backward passes of main scanning;

(b) selecting a position adjustment value for a bi-directional print mode used by the printing apparatus out of the plurality of position adjustment values; and

(c) adjusting dot forming positions along the main scanning direction during the bi-directional printing based on the selected position adjustment value.

2. (original): A method according to claim 1, wherein

the first bi-directional print mode and the second bi-directional print mode are bi-directional color printing modes.

3. (currently amended): A method according to claim 1, further comprising the steps of:

(d) generating a test pattern to be printed, wherein the test pattern can be used to test misalignments of the dot forming positions; and

(e) allowing a user to set a position adjustment value that is to be stored in the position adjustment value storage according to a printed result of the test pattern,

wherein the ~~step (d) includes generating a~~ test pattern generated in step (b) is a test pattern suitable for one of the first bi-directional print mode and ~~a test pattern suitable for~~ the second bi-directional print mode.

4. (currently amended): A method according to claim 3, wherein

an ink cartridge containing the ink set comprises a memory that

stores information including types of contained inks, and

generating the test pattern of the step (d) ~~includes~~comprises:

(d1) displaying a plurality of bi-directional print modes available to the printing apparatus based on the information read out from the memory and allowing a user to select a bi-directional

print mode that is to be subject to setting of the position adjustment value out of the plurality of available bi-directional print modes; and

(d2) generating the test pattern suitable for the selected bi-directional print mode.

5. (currently amended): A method according to claim 1, wherein

an ink cartridge containing the ink set comprises a memory that stores information used to set the position adjustment value, and

~~the step (a) includes:~~the method further comprises:

(a')setting the position adjustment value based on the information read out from the memory.

6. (currently amended): A method according to claim 1, wherein the step (b) includes:

using a preset standard value when the position adjustment value for a third bi-directional print mode to be used by the printing apparatus is not prepared in advance.

7. (currently amended): A method according to claim 1, wherein the step (b) includes:

using the position adjustment value for another bi-directional print mode when the position adjustment value for a third bi-directional print mode to be used by the printing apparatus is not prepared in advance.

8. (currently amended): A method according to claim 1, wherein the step (b) includes:

outputting a warning when the position adjustment value for a third bi-directional print mode to be used by the printing apparatus is not prepared in advance.

9. (original): A printing apparatus comprising a print head that has a plurality of nozzle groups each including a plurality of nozzles for ejecting an identical color, the printing apparatus having a bi-directional printing function of performing main scanning for moving the print head relative to a printing medium and sub scanning for moving the print head relative to the printing medium in a direction that transverses a direction of the main scanning, and ejecting ink from nozzles onto the printing medium on each of forward passes and backward passes of the main scanning of bi-directional movement to form dots on the printing medium, the printing apparatus comprising:

a position adjustment value storage that stores a position adjustment value for reducing misalignments of dot forming positions between forward passes and backward passes of the main scanning;

a position adjuster that adjusts dot forming positions along the main scanning direction during the bi-directional printing based on the position adjustment value stored in the position adjustment storage; and

an ink cartridge mount that can mount one or more ink cartridges thereon, the one or more ink cartridges having ink tanks each containing ink to be supplied to each of the nozzle groups,

wherein the printing apparatus can use a first ink set and a second ink set that have mutually different combinations of available inks through replacement of at least one of the ink tanks with another ink tank containing different type of ink,

the printing apparatus can use a first bi-directional print mode that selectively uses inks included in the first ink set and a second bi-directional print mode that selectively used inks included in the second ink set so that a combination of inks used in the first bi-directional print mode is different from a combination of inks used in the second bi-directional print mode,

the position adjustment value storage can store a plurality of position adjustment values including a first position adjustment value for the first bi-directional print mode and a second position adjustment value for the second bi-directional print mode, and

the position adjustment unit selects a position adjustment value for a bi-directional print mode used by the printing apparatus out of the plurality of position adjustment values to adjust dot forming positions.

10. (original): A printing apparatus according to claim 9, wherein

the first bi-directional print mode and the second bi-directional print mode are bi-directional color printing modes.

11. (original): A printing apparatus according to claim 9, further comprising:

a test pattern generator that generates a test pattern to be printed,

wherein the test pattern can be used to test misalignments of the dot forming positions; and

a position adjustment value setter that allows a user to set the position adjustment value to be stored in the position adjustment value storage,

wherein the test pattern generation unit can generate a test pattern suitable for the first bi-directional print mode and a test pattern suitable for the second bi-directional print mode.

12. (original): A printing apparatus according to claim 11, wherein

the ink cartridge comprises a memory that stores information including types of contained inks,

the printing apparatus comprises a reader for reading out information stored in the memory,

the position adjustment setter displays a plurality of bi-directional print modes available to the printing apparatus based on information read out by the reader and allows a user to select a bi-directional print mode to be subject to setting of the position adjustment value out of the plurality of available bi-directional print modes; and

the test pattern generator generates the test pattern suitable for the bi-directional selected via the position adjustment value setter.

13. (original): A printing apparatus according to claim 9, wherein

the ink cartridge comprises a memory that stores information used to set the position adjustment value, and

the printing apparatus further comprising:

a reader that reads out the information from the memory; and a position adjustment value setter that sets the position

adjustment value based on the information read out from the memory.

14. (original): A printing apparatus according to claim 9, wherein

the position adjuster uses a preset standard value when the position adjustment value storage does not store the position adjustment value for the bi-directional print mode used by the printing apparatus.

15. (original): A printing apparatus according to claim 9, wherein

the position adjuster uses the position adjustment value for another bi-directional print mode when the position adjustment value storage does not store the position adjustment value for the bi-directional print mode used by the printing apparatus.

16. (original): A printing apparatus according to claim 9, wherein

the position adjuster outputs a warning when the position adjustment value storage does not store the position adjustment value for the bi-directional print mode used by the printing apparatus.

17. (original): A computer program product for implementing bi-directional printing using a printing apparatus, the printing apparatus being capable of mounting thereon a first ink set and a second ink set that have mutually different combinations of inks and being capable of using a first bi-directional print mode that selectively uses inks included in the first ink set and a second bi-directional print mode that selectively used inks included in the second ink set so that a combination of inks used in the first bi-directional print mode is different from a combination of inks used in the second bi-directional print mode, the computer program product comprising:

a computer-readable medium; and

a computer program stored on the computer-readable medium, the computer program comprising:

a first program that causes a computer to select a position adjustment value for a used bi-directional print mode out of a plurality of position adjustment values including a first position adjustment value for the first bi-directional print mode and a second position adjustment value for the second bi-directional print mode as position adjustment values for reducing misalignments of dot forming positions between forward passes and backward passes of main scanning; and

a second program that causes the computer to adjust dot forming positions along the main scanning direction during the bi-directional printing based on the selected position adjustment value.

18. (new): A bi-directional printing method comprising:

providing a printing apparatus capable of mounting thereon a first ink set or a second ink set associated with a first bi-directional print mode and a second bi-directional print mode, respectively;

storing a first plurality of position adjustment values associated with the first bi-directional print mode and a second plurality of position adjustment values associated with the second bi-directional print mode;

selecting a first position adjustment value or a second position adjustment value; and

adjusting dot forming positions along a main scanning direction during bi-directional printing based on the selected first position adjustment value or second position adjustment value.

19. (new): The method according to claim 18, wherein the first bi-directional print mode and the second bi-directional print mode are bi-directional color printing modes.

20. (new): The method according to claim 18 wherein selecting a first position adjustment value or a second position adjustment value comprises:

printing a test pattern using the first plurality of position adjustment values or the second plurality of position adjustment values;

selecting a first position adjustment value or a second position adjustment value according to the printed test pattern.

21. (new): The method according to claim 18,

wherein the first ink set is contained in a first ink cartridge and the second ink set is contained in a second ink cartridge and the first and second ink cartridges each comprise a memory in which is stored information including the types of inks included in the ink cartridge; and

wherein selecting a first position adjustment value or a second position adjustment value comprises:

displaying a plurality of available bi-directional print modes based on information read out of the memory of the first ink cartridge or the second ink cartridge;

selecting a bi-directional print mode from among the displayed bi-directional print modes;

printing a test pattern using the plurality of position adjustment values for the selected bi-directional print mode; and

selecting a position adjustment value according to the printed test pattern.

22. (new): The method according to claim 18, wherein

wherein the first ink set is contained in a first ink cartridge and the second ink set is contained in a second ink cartridge and the first and second ink cartridges each comprise a memory in which is stored information including the types of inks included in the ink cartridge; and

wherein a first position adjustment value or a second position adjustment value is selected according to information stored in the memory of the first ink cartridge or the second ink cartridge.

23. (new): The method according to claim 18, wherein selecting a first position adjustment value or a second position adjustment value comprises selecting a preset standard value.

24. (new): The method according to claim 18, wherein selecting a first position adjustment value or a second position adjustment value comprises:

selecting a second position adjustment value when no first position adjustment value is stored; and

selecting a first position adjustment value when no second adjustment value is stored.

25. (new): The method according to claim 18, further comprising:

outputting a warning when no first position adjustment value is stored; and

outputting a warning when no second position adjustment value is stored.